

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

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3. The transducer of claim 1, wherein the transducer I/O lead is configured to contact the integrated circuit I/O lead at a transducer surface substantially parallel to a mounting surface of the substrate.

1 4. The transducer of claim 1, wherein the transducer I/O lead is
2 configured to contact a pin I/O lead of the integrated circuit.

1 5. The transducer of claim 1, wherein the transducer I/O lead is
2 configured to contact a solder ball lead of the integrated circuit.

6. The transducer of claim 1, wherein the transducer I/O lead is configured to contact the integrated circuit I/O lead at a transducer surface adjacent to a mounting surface of the substrate.

1 7. The transducer of claim 1, further comprising a power input lead
2 connectable to a power line of the substrate.

1 8. The transducer of claim 1, further comprising a transductional
2 device.

1 9. The transducer of claim 1, wherein the transductional device is an
2 opto-electronic device.

1 10. The transducer of claim 1, wherein the transductional device is an
2 electronic device.

11. A method of connecting a transducer to an integrated circuit mounted on a substrate, comprising

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3 mounting the transducer to the substrate, and
4 contacting an input/output (I/O) lead of the transducer to an I/O lead of
5 the integrated circuit.

1 12. The method of claim 11, wherein the transducer I/O lead electrically
2 connects to the integrated circuit I/O lead independently of any electrically
3 conductive path of the substrate.

1 13. The method of claim 11, wherein the transducer I/O lead contacts
2 the integrated circuit I/O lead at a transducer surface substantially parallel to a
3 mounting surface of the substrate.

1 14. The method of claim 11, wherein the transducer I/O lead contacts a
2 pin I/O lead of the integrated circuit.

1 15. The method of claim 11, wherein the transducer I/O lead contacts a
2 solder ball lead of the integrated circuit.

1 16. The method of claim 11, wherein the transducer I/O lead contacts
2 the integrated circuit I/O lead at a transducer surface adjacent to a mounting
3 surface of the substrate.

1 17. The method of claim 11, wherein the transducer connects to a
2 power line of the substrate when the transducer is mounted to the substrate.

1 18. A system, comprising
2 a substrate,
3 an integrated circuit mounted on the substrate and having an input/output
4 (I/O) lead, and
5 a transducer having an I/O lead configured to contact the I/O lead of the
6 integrated circuit.

1 19. The system of claim 18, wherein the transducer I/O lead is
2 configured to electrically connect to the integrated circuit I/O lead independently
3 of any electrically conductive path of the substrate.